

## Bixin

## Chemical Properties

CAS No. : 6983-79-5

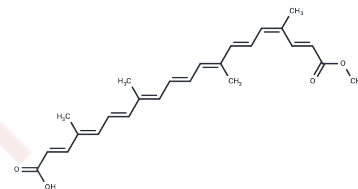
Formula: C<sub>25</sub>H<sub>30</sub>O<sub>4</sub>

Molecular Weight: 394.50

Keep away from direct sunlight

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



## Biological Description

Description	Bixin is an orally active carotenoid that modulates TLR4/NF-κB, Nrf2, and ROS to mitigate high-fat diet-induced cardiac injury in mice and induces apoptosis in A549, HeLa, and MCF-7 cells.
Targets(IC50)	Apoptosis,NF-κB,Nrf2,ROS,TLR
In vitro	Bixin (20-80 μM, 24 hours) not only ameliorated LPS-induced cellular fibrosis in H9C2 cells without cytotoxicity, but also alleviated inflammatory responses by inactivating the TLR4/NF-κB pathway and suppressed LPS-mediated ROS generation through activating the Nrf2 pathway [1]. Bixin (0-500 μM, 48 hours) exhibited anti-proliferative effects on three tumor cell lines: Human lung cancer (A549), cervical cancer (HeLa), and breast cancer (MCF-7) [2].
In vivo	Bixin (50-200 mg/kg, orally administered once daily for 14 weeks) alleviates systemic inflammatory responses in a high-fat diet-induced mouse model by inhibiting the activation of the TLR4/NF-κB signaling pathway and reducing pro-inflammatory cytokine secretion. It also decreases ROS production through activation of the Nrf2 pathway while effectively ameliorating systemic metabolic disorder in mice [1].

## Solubility Information

Solubility	DMSO: 5.50 mg/mL (13.94 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	2.5349 mL	12.6743 mL	25.3485 mL
5 mM	0.507 mL	2.5349 mL	5.0697 mL
10 mM	0.2535 mL	1.2674 mL	2.5349 mL
50 mM	0.0507 mL	0.2535 mL	0.507 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Xu Z, et al. Bixin ameliorates high fat diet-induced cardiac injury in mice through inflammation and oxidative stress suppression. *Biomed Pharmacother.* 2017 May;89:991-1004.

Kusmita L, et al. Bixa orellana L. carotenoids: antiproliferative activity on human lung cancer, breast cancer, and cervical cancer cells in vitro. *Nat Prod Res.* 2022 Dec;36(24):6421-6427.

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